

Old Town Dumps & Residential Wells

or

*A Practical Application of
Water Treatment Technologies*

Chuck Warzecha

Environmental and Occupational
Health

Old Landfills and Town Dumps

This presentation will cover...

- Background on Wisconsin's "Dumps"
- Their Impact on the Environment
- Public Health Implications Impacts
- Sampling Project Summary
- Recommendations for Local Public Health Departments and Local Units of Government

**"Wisconsin Landfills are among
the most Beautiful in the World"**



What are they?

- Approximately 4300 old township dumps
- Most began as gravel pits
- Others were Swamps (a.k.a. wetlands)
- **NOT** modern engineered sanitary landfills
- Most served only local community and industrial needs
- Accepted all kinds of waste
- Operation generally from the 40s to the 80s

Where are they?

- All over the state – we've all got them
- Most started in rural areas near cities
- Many of those areas are no longer rural
- They often don't look like landfills



County	Region	Town/City	Facility Name	Legal Description	Site Address
DANE	SCR	MADISON	CNTY DANE TRUAX FIELD (FMLY CTY MAD)	NE S31 08N 10E	
DANE	SCR	MADISON	COYLE INC	NE NW S36 07N 09E	YAHARA HILLS G
DANE	SCR	MADISON	CTY MADISON	NE SW S25 07N 10E	ODANA HILLS GC
DANE	SCR	MADISON	CTY MADISON	NE NE S31 07N 09E	
DANE	SCR	MADISON	CTY MADISON	S31 07N 10E	
DANE	SCR	MADISON	CTY MADISON (DEMETRAL 1952-67)	NE NW S06 07N 10E	6TH ST & PACKE
DANE	SCR	MADISON	CTY MADISON (MINERAL PT)	NE SW S24 07N 08E	
DANE	SCR	MADISON	CTY MADISON - LAKEVIEW SAN	NE SW S25 08N 09E	
DANE	SCR	MADISON	CTY MADISON 1953-69		MADISON SQUA
DANE	SCR	MADISON	CTY MADISON BURR JONES FIELD	NW S07 07N 10E	
DANE	SCR	MADISON	CTY MADISON FIORE PLAT	NW SW S26 07N 09E	
DANE	SCR	MADISON	CTY MADISON LAKESIDE	NW NW S25 07N 09E	
DANE	SCR	MADISON	CTY MADISON LAW PK 41-46	NW S24 07N 09E	
DANE	SCR	MADISON	CTY MADISON OLBRIK PK	SE S05 07N 10E	
DANE	SCR	MADISON	CTY MADISON-BOWMAN FIELD	SW SW S26 07N 09E	
DANE	SCR	MADISON	CTY MADISON-GREENTREE HILLS	SW SE NE S36 07N 08E	
DANE	SCR	MADISON	CTY MADISON-OLD BRICKYARD	SW SE S17 07N 09E	
DANE	SCR	MADISON	CTY MADISON-OLIN AV LF	NW SW S25 07N 09E	
DANE	SCR	MADISON	CTY MADISON-ST MARY'S PK LOT	NE S27 07N 09E	
DANE	SCR	MADISON	CTY MADISON-SYCAMORE BRUSH	SW NW S34 08N 10E	
DANE	SCR	MADISON	CTY MADISON-SYCAMORE SITE	NW SW S34 08N 10E	
DANE	SCR	MADISON	GARVER SUPPLY LF	NW SE S05 07N 10E	
DANE	SCR	MADISON	GILOMEN TRUCK & EQUIPMENT	SW SE S33 08N 10E	
DANE	SCR	MADISON	GOBEN CARS INC	SW SE S21 07N 10E	
DANE	SCR	MADISON	HARP & KETTLE CHEESEHOUSE	NW S28 07N 10E	
DANE	SCR	MADISON	HY-HO SILVER INC		4602 TOMPKIN
DANE	SCR	MADISON	ICKE CONST. (ASH SITE)	NW SW S36 07N 09E	
DANE	SCR	MADISON	L. A. O. MACHINE SHOP	SE SW S22 07N 10E	
DANE	SCR	MADISON	LENNES SCHLOBOHM (DEMO)	NE NW S36 07N 09E	
DANE	SCR	MADISON	MADISON CRUSHING & EXCAVATION	SE SW S33 08N 10E	
DANE	SCR	MADISON	MADISON GAS & E 1941-44	SE S12 07N 09E	
DANE	SCR	MADISON	MADISON METROPOLITAN	SE S30 07N 10E	1610 MOORL
DANE	SCR	MADISON	SEWERAGE DIST LAGOONS		
DANE	SCR	MADISON	MENDOTA STATE HOSPITAL	NE S32 08N 09E	
DANE	SCR	MADISON	MIDWEST STEEL DIVISION	NE SW S15 07N 10E	2002 VONDRI
DANE	SCR	MADISON	STEWART WATSON (DEMO)	NW S02 06N 09E	
DANE	SCR	MADISON	UNIV OF WISC-PICNIC PT	NE NE S16 13N 09E	
DANE	SCR	MADISON		SW NE S16 07N 09E	

Common Hazards

- Direct contact with wastes (e.g. sharps, chemicals, infectious agents...) *most of these issues have been addressed*
- Landfill gas migration to nearby buildings - *many still and issue, but that's another talk*
- Groundwater contamination - **private well impacts** and potentially, vapor intrusion *also another talk*

Public Health Implications - GW

- Chlorinated Solvents – Primary Contaminants of Concern
- Acute Health effects unlikely from concentrations seen near landfills
- Increased lifetime cancer risk – most common concern
- Stress for most people involved

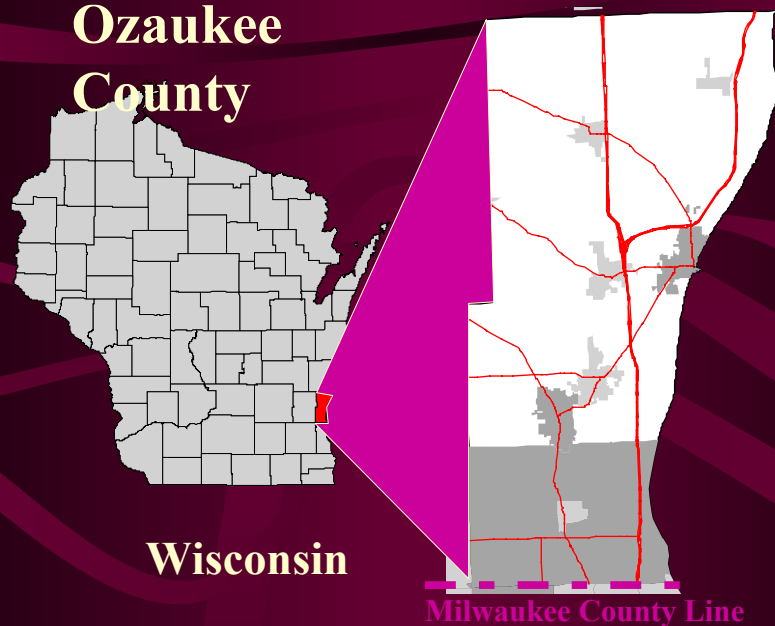
Private Wells in Wisconsin

- Approx. 1/3 of the population relies on private wells
- Rapid rural residential development – ongoing since late 80s
- No Safe Drinking Water Act or similar monitoring program for residential wells
- Well construction code with 1200' landfill setback (1975)

Phase I – Ozaukee County

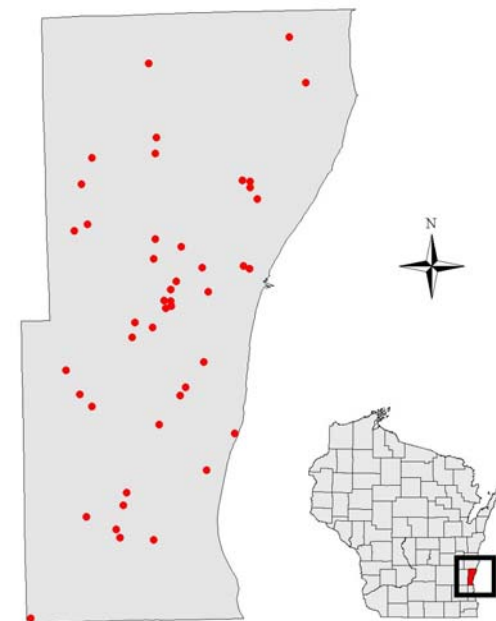
- Met with Local Health and DNR (retired)
- Reviewed site files for indications of Groundwater impacts
- Selected sites for sampling
- Coordinated sampling between DHFS and DNR staff

Ozaukee County

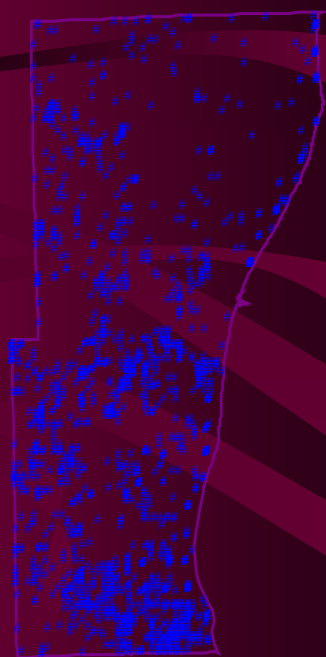


Ozaukee County Landfills

Ozaukee County Landfills on Record closed before 1990 (46)



Wells Installed in Ozaukee County 1988-98 (1,855)



Phase I - Results

- Sampling conducted near 17 sites
- One found to have significant impacts to nearby private wells
- Followup sampling and response was extensive – involved EPA Removals Program

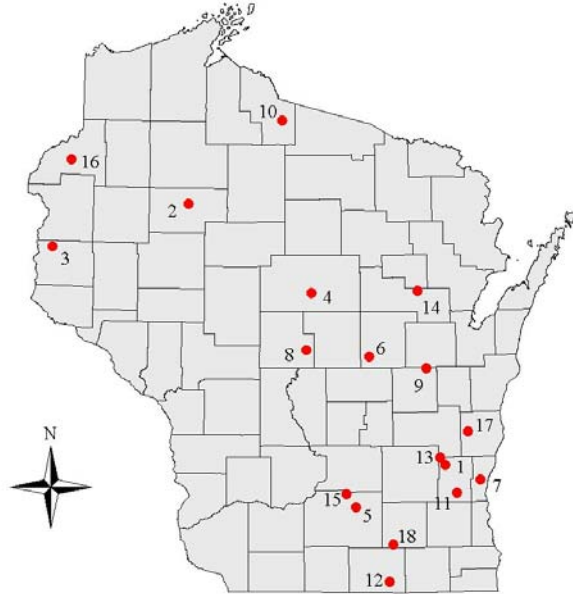


Phase II – Statewide

- Solicited sites of concern from DNR staff
- Selected 17 sites for private well sampling
- DNR staff listed reasons for concern

Locations of Project Sites

- 1 Freeman Chemical
- 2 City of Ladysmith
- 3 City of New Richmond
- 4 Gorski
- 5 Town of Burke
- 6 Town of Dayton
- 7 Town of Grafton
- from Phase 1
- 8 Town of Grand Rapids
- 9 Town of Menasha
- 10 Town of Mercer
- 11 Town of Richfield
- 12 Town of Turtle
- 13 Town of Wayne
- 14 Town of Wescott
- 15 Village of Deforest
- 16 Yourchuck's Sanitary
- 17 Plymouth
- 18 Sanitary Transfer



Phase II - Results

- Found impacts at 12
- 24 wells > drinking water standards
- All unhealthy exposures have now been eliminated.

What did we learn?

- There are still likely to be problem sites out there
- Private well sampling for VOCs is appropriate
- Stress is a significant health concern related to these problem sites

So what do we do about it?

- Inform owners of the old dumps (i.e. Town Boards, etc.)
- Inform residents near them
- Inform Local Public Health Departments and support their role in advising land use planning activities
- Develop educational materials

Recommendations to LPHDs

- Get to know where the waste sites are in your jurisdiction
- Find out
 - which have been studied
 - which are low risk (yard waste, demo waste...)
 - which have homes nearby
 - which have development potential
- Keep these issues on the radar screens of the land use planners and decision-makers

Educational Materials

- Chlorinated Solvents in Residential Well Water
- Drinking Water Information for Pregnant Women and Families with Young Children
- Old Dumps and Landfills - Done
- Cancer Facts and Cancer Clusters – Updated
- Comprehensive Planning factsheets for Groundwater issues - GCC/DNR website

Helpful Web-Sites

- DHFS human health hazards fact sheet
www.dhfs.state.wi.us/eh/HlthHaz/fs/Dumps.HTM
- DNR database of waste disposal sites
www.dnr.state.wi.us/org/aw/rr/archives/pubs/RR108.pdf
- DNR database of all contaminated sites
www.dnr.state.wi.us/org/aw/rr/brrts/index.htm
- Comprehensive Planning fact sheets for GW
www.dnr.state.wi.us/org/water/dwg/gw/whp/fact.htm